Vinson & Elkins
ATTORNEYS AT LAW

VINSON & ELKINS L.L.P.
THE WILLARD OFFICE BUILDING
1455 PENNSYLVANIA AVE., N.W.
WASHINGTON, D.C. 20004-1008
TELEPHONE (202) 639-6500
FAX (202) 639-6604

WRITER'S TELEPHONE
(202) 639-6755

EX PARTE OR LATE FILED

FEB 11 1997

February 11, 1997

Mr. Donald H. Gips
Bureau Chief
International Bureau
Federal Communications Commission
2000 M Street, N.W.
Washington, D.C. 20554

Re: IB Docket No. 96-220
Ex-Parte Presentation

Dear Mr. Gips:

On behalf of Leo One USA Corporation ("Leo One USA"), thank you for meeting with us recently to discuss the comments and reply comments in the above-referenced rulemaking proceeding. In the course of our discussions, you asked for a clarification of two items: (i) the substitutability of Big LEO services for Little LEO services and (ii) the calculation of consumer surplus associated with the proposed Leo One USA band plan. We have provided below a discussion of both of these issues.

Substitutability of Big LEO Services

There are several factors which limit the extent to which Big LEO systems can serve as substitutes for Little LEO systems. First, due to high equipment and service costs, all Big LEO systems are high or medium cost systems when compared to low cost Little LEO systems. Big LEO systems are designed primarily to provide two-way voice services, which require larger, more complex satellites and a circuit-oriented connection over their networks to transmit even short messages, all of which significantly increase the system's per-message cost for such short messages. Second, even if a Big LEO system faced relatively low incremental costs in serving Little LEO markets, the opportunity cost of spectrum for a Big LEO system is likely to be too high for it to compete effectively in these markets. Specifically, the Big LEO system requires a significant number of bits to set up the call. However, the average Big LEO call will be several minutes. Thus, the capacity used for call-set up is minimal for a voice circuit when compared to the total capacity required for the call. If a Big LEO system were to offer store-and-forward data services, it would still require the same number of bits to set up the transmission. However, the

actual number of bits used in the data transmission would be minuscule compared to that used for voice. Thus, the Big LEO operator has every incentive to provide voice rather than data services because of the inefficiency inherent in Big LEO system architecture when used for data. Third, even if massive excess capacity on the Big LEO system resulted in an opportunity cost of zero to provide service in Little LEO markets, the marginal costs to consumers would remain high due to the high cost of Big LEO subscriber equipment. For instance, the cost of Big LEO subscriber equipment ranges from $750 to $3000 while the Little LEO subscriber equipment will cost from $50 to $500. Fourth, the Big LEOs face significant disadvantages in terms of foliage and building penetration and power requirements stemming from their use of higher frequencies than Little LEO systems. Finally, Big LEO operators are positioning themselves as complements, not competitors, to Little LEO systems. OmniTRACS, which is owned by QUALCOMM Incorporated, an original investor in the Globalstar Big LEO system, has an agreement to act as a reseller of Orbcomm's Little LEO services. If QUALCOMM viewed Big LEO and Little LEO services as substitutes, it would use OmniTRACS to resell Globalstar's Big LEO services. Similarly, it is interesting to note that Teleglobe is an investor in both the Odyssey Big LEO system and Orbcomm. It is unlikely that Teleglobe would back competing systems. Furthermore, in SEC registration statements the Big LEO system operators have listed as competitors other Big LEO and geostationary and nongeostationary Ka-band systems. Little LEOs are conspicuously absent from the list. Based on these factors, Leo One USA has concluded Big LEO systems will not compete directly with licensed or proposed Little LEO systems.

Calculation of Consumer Surplus

The introduction of new Little LEO systems will have a direct impact on consumer welfare. Leo One USA expects to offer entirely new services as well as services competitive with existing Little LEO suppliers. Given that any new entrant can be expected to allocate system capacity into its most profitable use, it is not surprising that Leo One USA's revenues are expected to come disproportionately from "new service" and "current Little LEO markets". In its comments, Leo One USA estimated that markets that cannot be served by current licensees ("new service markets") would account for 32% of the number of markets identified but are expected to generate 60% of Leo One USA's future revenues. Markets that will be served by existing Little LEO licensees ("current Little LEO markets") would account for 17% of the number of identified markets but are expected to generate 26% of revenues. Markets served by Little LEO systems and other service providers ("competitive-niche markets") would account for 44% of the number of potential markets but are expected to account for only 14% of Leo One USA's revenues. Leo One USA estimates that the total revenue that could be generated by a new Little LEO system capable of serving all of these markets by year five from new entry to be approximately $488.5 million.

The above information, when combined with some simple but not unrealistic -- even conservative -- assumptions, are sufficient to derive a rough, "back of the envelope" estimate of the gain to consumers (the increase in consumer surplus) that would result from the entry of Leo One USA's proposed System A and System B. For example, assuming linear demand curves in all markets; all costs fixed (*i.e.*, zero marginal cost); Cournot-type behavior in oligopoly markets; VITA competing in for-profit markets and GE Starsys successfully launching its system; the entry of Leo One USA and a second new entrant; only one new entrant entering into "new service markets"; and no effect at all on prices in "competitive-niche markets" from the System A or the System B supplier's entry into those markets, the estimated increase in consumer surplus in year five from new entry would be 50% of Leo One USA's anticipated year-five revenue of $ 295 million from "new service markets" and approximately 236% of Leo One USA's year-five anticipated revenue of $126 million from "current Little LEO markets", plus 0% of Leo One USA's anticipated revenue of $ 67 million from "competitive-niche markets", for a total increase in consumer surplus of $ 444 million, or 91% of Leo One USA's anticipated total revenue.

This derivation is shown in Table 1 and is illustrated in Figures 1, 2 and 3. Table 1 identifies three situations: (1) new service markets after entry; (2) current Little LEO markets before entry; and (3) current Little LEO markets after entry. It identifies the HHI for each market,[1] calculates the number equivalent (N), and determines the quantity (Q), market price (P) and amount of consumer surplus (CS) for each market, assuming linear demand and zero marginal costs.[2] Assuming market shares for System A of 100% in new service markets and 29% in current Little LEO markets, and using the estimates of Leo One USA's expected revenue in five years of $488.5 million, Leo One USA derived the expected level of consumer surplus in these three markets in year five. The total increase in consumer surplus from entry ($444 million) is then equal to the consumer surplus in "new service markets" ($148 million) plus the difference between the pre-entry and post-entry consumer surplus in "current Little LEO markets" ($297 million).

---

[1] *See* Comments of Leo One USA at App. A, Table 4: HHI Analysis.

[2] For the derivation of the formulas in Table 1, *see* Carlton and Perloff (1990) at 267.

TABLE 1: EFFECT OF LEO ONE USA PROPOSAL ON CONSUMER SURPLUS

	HHI	N	Q	P	CS	Rev Leo One	Ratio, CS to Rev. Leo One	Leo One Rev Yr. 5	CS Yr. 5
"New Service Market"	10,000	1.00	1.00	1.00	0.50	1.00	0.50	295	148
"Current Little LEO Market"	8239	1.60	1.23	0.77	0.76	0.00			484
"Current Little LEO Market" + Leo One proposal	2784	3.59	1.56	0.44	1.22	0.20	6.19	126	780
"Current Little LEO Market"+ Leo One proposal - "Current Little LEO Market"	-3455	1.99	0.33	-0.33	0.47				
Total CS Increase under Leo One proposal									444

Rev Leo One = (Market Share Leo One)PQ
Market Share Leo One: Current = 0
Market Share Leo One: Leo One Proposal[3] = .29

P = 2/(N+1)
$CS = 2N^2/(N+1)^2$

N = 10,000/HHI
Q = 2N/(NH)

Figures 1-3 illustrate the effect of entry in the three market types: "new service", "current Little LEO", and "niche- competitive".

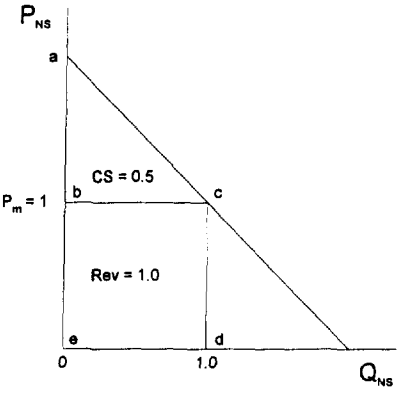

Figure 1: New Service Market

Figure 1 illustrates the effect of entry by one new provider into a "new service market" with a linear demand curve and zero marginal cost. Under these assumptions, quantity (Qns) is one half the quantity that would be demanded if price (Pns) equaled marginal cost, so that the increase in consumer surplus because of the availability of this service (area abc in Figure 1) would be equal to one half of the revenue expected from its provider (area bcde in Figure 1).

---

[3] *See id*

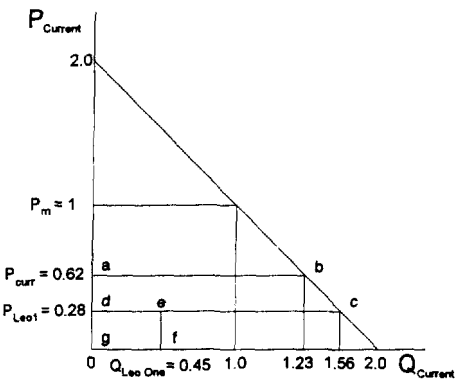

Figure 2: Current Little LEO Market

Figure 2 illustrates the effect of entry (by the System A and the System B suppliers) in a "current Little LEO market". Assuming linear demand curves and zero marginal cost, a reduction in the HHI from 6239 to 2784, and a market share of System A equal to its 29% share of capacity,[4] the entry of System A and System B would result in an increase in consumer surplus (area abcd in Figure 2) equal to 2.36 times the revenue expected by Leo One USA (area defg in Figure 2).

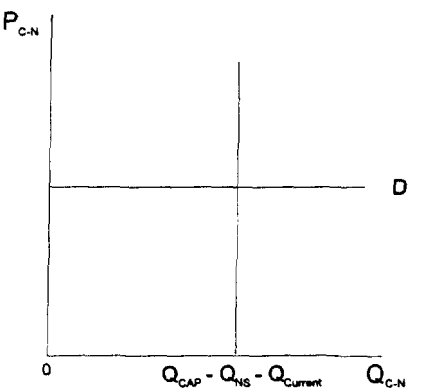

Figure 3: Competition - Niche Market

Finally, Figure 3 illustrates the effect of entry (by System A and System B) into a perfectly competitive market, into which Little LEO suppliers essentially allocated whatever capacity

[4] *Id.*

would be left over after serving "Little LEO" markets (new service markets + current Little LEO markets). While Little LEO systems may make profits (or quasi-rents) in these markets, under these assumptions there would be no increase in consumer surplus from entry into these markets. Of course, to the extent that Little LEO sales in these markets were better characterized as sales of a differentiated product into "niche markets," there could be significant consumer gains from Little LEO entry into these markets, of the same proportion of expected Leo One USA revenues in those markets as for "new service" or "current Little LEO" markets.

We hope this information helps to clarify some of the items we discussed with you. If you have any further questions, please do not hesitate to call us. Again, thank you for your consideration of Leo One USA's views.

Sincerely,

Robert A. Mazer
Albert Shuldiner
Counsel for Leo One USA Corporation

cc: Office of the Secretary (2 copies)
Ruth Milkman
Cassandra Thomas
Paula Ford